Autumnwood ESH Consultants, LLC
6539 Autumnwood Court
Mount Pleasant, Wisconsin 53403
Phone: 262.237.1130

26 May 2017

Mr. John Nordine
U.S. EPA Region 5
RCRA Enforcement and Compliance Assurance Branch (LU-9J)
77 West Jackson Boulevard
Chicago, Illinois 60604

Re: Central Wire, Union, Illinois RCRA CMI Monthly Progress Report for April 2017

Dear Mr. Nordine:

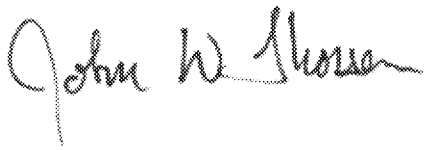
Enclosed please find the RCRA CMI Monthly Progress Report for the Central Wire Inc. (CWI) facility located in Union, Illinois for April 2017.

This report includes the eDMR for the groundwater pump and treat facility and the laboratory analytical report, which includes the effluent data used in the eDMR.

If you have any comments or questions regarding the progress of this project, please contact me at (262) 237-1130.

Sincerely,

Autumnwood ESH Consultants, LLC



John W. Thorsen, P.E.

JWT:jt

encl

cc:	Joyce Munie	IEPA
	Robert Kay	USGS
	Gerald W. Ruopp	Central Wire
	Robert Johnson	Central Wire

MONTHLY PROGRESS REPORT
Central Wire Union, Illinois Site
April 2017

1 **Progress Made This Reporting Period** – This reporting period Central Wire Inc. (CWI) continued the operation and maintenance of the groundwater extraction and treatment (P&T) system. CWI treated an average of 560,000 gallons per day (GPD) with a maximum daily flow of 570,000 GPD. Table 1 lists the monthly P&T volumes from January 2015 through April 2017.

The monthly NPDES sample met effluent limitations for pH, 1,1,1-Trichloroethane (TCA), Trichloroethene (TCE) and Tetrachloroethene (PCE). The electronic Discharge Monitoring Report (eDMR) for the month is attached to this report.

The laboratory analytical report for the pump and treat effluent noted that the groundwater pump & treat effluent samples were collected on April 20, 2017 and arrived at Test America Laboratory on April 21, 2017 at 2.8° C.

CWI received a comment letter from EPA dated April 13, 2017 on the Remedial Options Report submitted by CWI. The one comment was to add the option of nano-carbon injection as treatment and include costs. CWI is doing that and will submit it by May 26, 2017.

CWI received an email from EPA dated April 18, 2017 providing comments on the March 2017 RCRA Monthly Progress Report which included:

- Add discussion on analytical data for extraction wells EW-1 and EW-2 including detections, MCL exceedances, comparisons to historical concentrations and implications for the ongoing effectiveness of the pump & treat system. See Tables 2 and 3 and related discussion.
- Present the status of efforts to improve the yield of EW-2
- Provide a table of the historical and present monthly average extraction rates and continue to provide that information monthly. See Table 1.

CWI is adding the requested information to this Monthly Progress Report per a May 8, 2017 communication with EPA.

CWI collects influent samples from its pump and treat system once per quarter (in the third month of the quarter) to evaluate the effectiveness of the pump and treat system. This data is in the March, June, September and December NPDES Analytical Reports of each year and submitted to EPA as part of the Monthly Progress Reports. Quarterly sample analysis data, including detections and non-detections, since the first quarter of 2014 are shown in Table 2. Exceedances of EPA's MCLs are shown in bold.

Table 3 shows the actual values for the permitted / reportable VOCs from each extraction well. In December 2016, CWI determined that EW-1 was pumping twice the water of EW-2, approximately 400 gallons per minute (gpm) vs. EW-2's 200 gpm.

To obtain the VOC concentration in Table 2, CWI doubled each concentration from EW-1, added it to the same quarter value for each VOC for EW-2 and divided the sum by three to get an approximate value of the influent at the P&T system for each extraction well.

In Table 3 for EW-1, TCE appears to be slowly decreasing, but was above the MCL for all quarters reported. PCE has been consistently below the MCL except in the 2nd quarter of 2014. TCA has been consistently below the MCL of 200 μg/L. 1,1-Dichloroethene (DCE) was below the MCL in 2014, except for the 3rd quarter, went slightly above the MCL in 2015 and 2016 and was again below the MCL in the 4th quarter of 2016 and the 1st quarter of 2017. Cis-1,2-Dichloroethene (cis-1,2-DCE) is reported because there are exceedances of the MCL. In 2014, there was one exceedance in the 3rd quarter and consistent exceedances since the 2nd quarter of 2015, going up to 89 μg/L in the 3rd quarter of 2015 and coming down near the MCL at 71 μg/L in the 1st quarter of 2017. Cis-1,2 DCE is a degradation product of TCA.

In EW-2, TCE and PCE consistently exceeded the MCL of 5 μg/L. TCE ranged from 6.8 to 23 μg/L with no apparent trend while PCE ranged from 13 to 38 μg/L, except for one outlier. TCA was consistently well below the MCL of 200 μg/L ranging from 2.9 to 54 μg/L. And DCE was consistently below the MCL of 7 μg/L, ranging from *not detected* to 5.4 μg/L. There were no MCL exceedances of Cis-1,2-DCE (70 μg/L) in EW-2 for the period (not included in Table 3).

There do not appear to be any adverse implications for the ongoing effectiveness of the pump & treat system. Table 2 shows that, in general over the past 13 calendar quarters, the overall removal efficiency for TCE, PCE and TCA was 93% with 8 of 13 quarters exceeding 95% removal efficiency. Again, in general, treatment efficiency generally improved across this 13 quarter period.

2 Summary of Validated Data and Results

Pump & Treat System NPDES Sampling

The monthly effluent sampling took place on April 20, 2017. The permit limitations and analytical results are shown in Table 4, below. There were no effluent limitation exceedances.

Table 4
Central Wire Union Illinois Pump & Treat Discharge Analytical Results

Parameter	Effluent Limitation (Daily Maximum) µg/L	Analytical Results, µg/L
1,1,1-Trichloroethane	20	< 0.38
Tetrachloroethene	20	< 0.37
Trichloroethene	20	<0.16

The April 2017 NPDES analytical report is attached to this Monthly Progress Report.

This report also has environmental analytical results for the North Pond and South Pond. These ponds are Illinois EPA-regulated seepage ponds for CWI's rinse waters from the annealing process, non-contact cooling water, boiler blowdown and storm water.

3 **Upcoming Events/Activities Planned** – CWI will continue to operate the existing remediation systems. Effluent samples will be collected, analyzed and reported as required in our NPDES permit.

CWI is preparing letters to IEPA and **Ex. 6 Personal Privacy (PP)** Ex. 6 Personal Privacy (PP), to determine the viability of the pump and discharge option.

RCRA monitoring wells and selected residential wells will be collected on a six month cycle, usually in June and December.

Samples will continue to be collected at the **Ex. 6 Personal Privacy (PP)** well every month when the Ex. 6 Personal Privacy (PP) pumps are operating, usually between April and October of each year. This is being done at the request of U.S. EPA. Pumping began in May in 2017.

Regarding Extraction Well 2, CWI personnel had a telephone conference with Mr. John Nordine of U.S. EPA regarding plans to control the leading edge of the plume. In this discussion, CWI also discussed the status of and the rehabilitation of EW-2.

CWI has put a lot of effort into increasing the production in EW-2. This effort includes:

- Yearly pump pulling and cleaning or exchanging for a clean or new pump.

- In 2014, there was a major effort to increase the flow through the piping system. CWI contracted Municipal Well & Pump Co. to clean of all the pipes from both extraction wells to the pump & treat facility by pigging (cleaning) the pipes. CWI did this to try and increase the total discharge through the system. During this time it was noted that EW-2 was not producing enough water to keep the pump

submerged. Air would enter the system and create iron fowling that would adhere to all parts of the well pump and screen.

- CWI installed a variable speed drive system on EW-2 so that they could limit the speed of the pump to match the output of the well. This reduces or eliminates the cavitation of the pump decreasing the formation of iron fowling.

- In 2016, CWI undertook another major effort at EW-2. Municipal Well & Pump Co. was contracted to conduct air bursting of the well screen to blow back any soil grains or iron particles. Along with this, the well screen was brushed and video documented to insure the inside of the well was clean. Currently, CWI is pumping all the water that is produced by the EW-2 well. The low point before air bursting EW-2 was 435,000 gallon per day (gpd) from both wells, it is now (April 2017) at 560,000 gpd, 125,000 gpd greater than before the air bursting. CWI feels that all reasonable actions have been taken to improve EW-2's water production. While some improvements have been made, CWI does not believe that any further increase in water production will draw back the chlorinated plume that has gone past the present extraction system.

- CWI has proposed a separate new system with a larger extraction well (EW-3) planned to be located at the Ex. 6 Personal Privacy (PP) near the leading edge of the plume to continue remediation efforts.

- It is CWI's opinion that further monies spent on attempting to increase the flow at EW-2 is a wasted effort and better spent on remediation at the leading edge of the plume.

3 **Anticipated Problem Areas and Recommended Solutions** – None.

4 **Key Personnel Changes** – None.

5 **Target and Actual Completion Dates** – This project has not deviated from the project schedule.